



How the World Works

January 5th - February 20th



The properties of construction materials influence the design of buildings and structures.

Lines of inquiry

- Different building materials and their properties
- The materials and shapes used in making different stable, weight bearing structures

*Each class will write a third line of inquiry based on the interests of the students.

Key concepts: form, connection, causation

Subject Focus: science, maths

Teacher questions

What are the properties and uses of different materials?

How do people decide what materials to use in their structures?

What are the different types of structures?

How is the design of a building connected to its environment?

Learner Profile focus: communicator, reflective, open-minded

Attitudes focus: commitment creativity, independence

In this unit students will have the opportunity to build on their science investigation skills learned in Grade 4 as they investigate the properties of a range of materials used for the construction of buildings and other structures. They will then use this knowledge for the **summative assessment task** which will require them to design a structure, explain what materials would be used to build it and how the properties of materials influenced the design. Other learning engagements include building structures to meet certain requirements using a range of different materials and viewing programs about construction (such as *Grand Designs*). Students will be involved in the planning of other learning engagements depending on the third line of inquiry and student questions.

The writing focus for this unit is writing to explain.

Students will further their understanding of the language features and text organisation of an explanation. They will also develop their general writing skills of using correct punctuation, writing complex sentences, and editing and revising what they have written.

The maths areas of space and shape, and measurement will be integrated in the unit. Learning engagements will focus on developing students' understanding of the use of 2D representations of 3D objects to visualise and solve problems (for example using drawings or models), standard units of measurement used to find volume, perimeter and area, and how geometric ideas and relationships can be used to solve problems in other areas of mathematics and in real life.

We will be using a range of mental and written strategies to solve multiplication and division problems, building on skills and knowledge from Term 1.

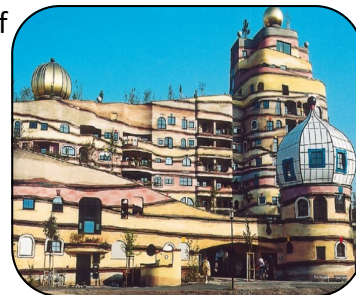


Arabic: Students will look at a range of construction materials and designs and consider why the materials are used. They will look at videos showing the designs of buildings and discuss the types, shapes, purpose and materials used. They will compare structures in Qatar to those in another country and talk about how designs and materials can be influenced by the climate. Students will write a text about designs, comparing buildings in the past to now.

French B: Students will focus on speaking and listening through describing the different characteristics and styles of houses. They will be able to answer questions such as *qu'est-ce qu'il y a dans ma maison?* Students may make a diorama of a house and describe what is inside.

Spanish: Students will inquire into how design is influenced by climate/location/society. They will research how climate influences materials used and the designs of structures in a country of their choice. Students will work with partner and give a presentation on their research findings.

French mother tongue: Students will look at architecture and style of buildings in French-speaking countries.



PE: The focus for this half term is health related exercise and athletics. The main components of athletics (running, jumping, and different throwing techniques) will be covered. Students will practice different running techniques and running a range of distances. Students will find out about the use of fitness testing, and carry out fitness tests e.g. shuttle runs. They will learn to measure their pulse before, during and after exercise and consider the impact of exercise on their health including body adaptations and both short and long term changes.

Library/I.T: Students will review the features on Follett catalogue and online databases through a treasure hunt challenge. They will also develop their research skills with a focus on determining information needs, and location and access/use of information. Students will learn some features of *Glogster* as a presentation tool.

Key vocabulary: construct construction material design architecture model
property shape structure strength flexibility shape estimate area perimeter
angle dimensions measurement length width height force compression
metal plastic

How you can help: look at construction taking place in Doha; talk about it with your child and encourage them to find answers to questions they might have; encourage your child to construct things at home (using lego, k'nex, sticks, straws, for example); remind your child to use Mathletics regularly to maintain skills; help your child to find relevant news articles and bring them to share; talk with your child about the designs of buildings and other structures in their home country and the materials used; ensure that your child can quickly recall multiplication facts (times tables) and the related division facts; encourage your child to use the Library resources on the Grade 5 Wikispace to find out more about materials and construction; encourage your child to tell you about how things work or how they are made (explanation).

We will have a ***Celebration of Learning*** on Wednesday, February 19th (time to be confirmed closer to that date).

